

## WHAT IS CLAIMED IS:

1. A method of improving embryo implantation, the method comprising contacting an embryo with an effective amount of heparanase and implanting the embryo in a receptive uterus.
2. The method of claim 1, wherein said heparanase is a mature heparanase.
3. The method of claim 1, wherein said heparanase is a pro-heparanase, cleavable into mature heparanase.
4. The method of claim 1, wherein contacting the embryo with an effective amount of heparanase is in vitro.
5. The method of claim 1, wherein contacting the embryo with an effective amount of heparanase is in utero.
6. The method of claim 1, wherein the embryo is generated in vitro via in vitro fertilization.
7. A method of improving embryo implantation, the method comprising contacting a receptive uterus with an effective amount of heparanase and implanting the embryo in the receptive uterus.
8. The method of claim 7, wherein said heparanase is a mature heparanase.
9. The method of claim 7, wherein said heparanase is a pro-heparanase, cleavable into mature heparanase.

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10. The method of claim 7, wherein the embryo is generated in vitro via in vitro fertilization.

11. The method of claim 7, wherein contacting the receptive uterus with the effective amount of heparanase precedes implanting the embryo in the receptive uterus.

12. The method of claim 7, wherein contacting the receptive uterus with the effective amount of heparanase is concurrent to implanting the embryo in the receptive uterus.

13. A method of improving embryo implantation, the method comprising contacting a receptive uterus with an effective amount of heparanase, contacting an embryo with an effective amount of heparanase and implanting the embryo in the receptive uterus.

14. The method of claim 13, wherein said heparanase is a mature heparanase.

15. The method of claim 13, wherein said heparanase is a pro-heparanase, cleavable into mature heparanase.

16. The method of claim 13, wherein contacting the embryo with an effective amount of heparanase is in vitro.

17. The method of claim 13, wherein contacting the embryo with an effective amount of heparanase is in utero.

18. The method of claim 13, wherein the embryo is generated in vitro via in vitro fertilization.

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20. The method of claim 13, wherein contacting the receptive uterus with the effective amount of heparanase is concurrent to implanting the embryo in the receptive uterus.

22. The method of claim 21, wherein said heparanase is a mature heparanase.

23. The method of claim 21, wherein said heparanase is a pro-heparanase, cleavable into mature heparanase.

24. The method of claim 21, wherein contacting the IVF embryo with an effective amount of heparanase is in vitro.

25. The method of claim 21, wherein contacting the IVF embryo with an effective amount of heparanase is in utero.

26. A method of improving IVF embryo implantation, the method comprising contacting a receptive uterus with an effective amount of heparanase and implanting the IVF embryo in the receptive uterus.

27. The method of claim 26, wherein said heparanase is a mature heparanase.

28. The method of claim 26, wherein said heparanase is a pro-heparanase, cleavable into mature heparanase.

29. The method of claim 26, wherein contacting the receptive uterus with the effective amount of heparanase precedes implanting the IVF embryo in the receptive uterus.

30. The method of claim 26, wherein contacting the receptive uterus with the effective amount of heparanase is concurrent to implanting the IVF embryo in the receptive uterus.

31. A method of improving IVF embryo implantation, the method comprising contacting a receptive uterus with an effective amount of heparanase, contacting an IVF embryo with an effective amount of heparanase and implanting the IVF embryo in the receptive uterus.

32. The method of claim 31, wherein said heparanase is a mature heparanase.

33. The method of claim 31, wherein said heparanase is a pro-heparanase, cleavable into mature heparanase.

34. The method of claim 31, wherein contacting the IVF embryo with an effective amount of heparanase is in vitro.

35. The method of claim 31, wherein contacting the IVF embryo with an effective amount of heparanase is in utero.

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36. The method of claim 31, wherein contacting the receptive uterus

37. The method of claim 31, wherein contacting the receptive uterus

38. An embryo coated with exogenous heparanase.

39. The embryo of claim 38, wherein said heparanase is a mature

40. The embryo of claim 38, wherein said heparanase is a

41. The embryo of claim 38, between 2 cells and a blastocyst.

42. A pharmaceutical composition comprising, as an active

43. The pharmaceutical composition of claim 42, wherein said

44. The pharmaceutical composition of claim 42, wherein said

45. A pharmaceutical composition comprising, as an active

46. The pharmaceutical composition of claim 45, wherein said heparanase is a mature heparanase.

47. The pharmaceutical composition of claim 45, wherein said heparanase is a pro-heparanase, cleavable into mature heparanase.

48. An embryo growth composition comprising an effective amount of nutrients for embryonic growth and an effective amount of heparanase for assisting in embryo implantation.

49. The embryo growth composition of claim 48, wherein said heparanase is a mature heparanase.

50. The embryo growth composition of claim 48, wherein said heparanase is a pro-heparanase, cleavable into mature heparanase.

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